The specification has been amended in the first paragraph to update the status of the priority documents. Claims 47, 49, 51 and 53 have been amended to recite that the methods are practiced *in vitro*. Support for this amendment can be found throughout the specification, for example, at page 9, lines 26 through 28. Claims 48, 50, 52 and 54 have merely been amended to independent form. Accordingly, these amendments do not raise an issue of new matter and entry thereof is respectfully requested.

Applicants have set forth above the amendment to the claims and specification in clean form as required under 37 C.F.R. § 1.121(c)(1)(i) and 37 C.F.R. § 1.121(b)(1)(i) and (ii). Applicants also attach Appendix A with marked up amendments indicated with brackets and underlining as required under 37 C.F.R. § 1.121(c)(1)(ii) and 37 C.F.R. § 1.121(b)(1)(iii).

Regarding Formalities

At page 2 of the current Office Action (Paper No. 5) the Examiner asserts a new title is required that is clearly reflective of the claims. Applicants respectfully request to defer this issue until allowable subject matter has been indicated.

Regarding the Rejections under 35 U.S.C. §112, second paragraph

The rejection of claims 45 through 54 under 35 U.S.C. §112, second paragraph, as allegedly indefinite for failing to point out with sufficient particularity the subject matter regarded as the invention, is respectfully traversed.

Applicants thank the Examiner for the discussions and courtesy extended during several telephonic interviews with Applicants' representative.

Briefly, the term "cell" is asserted to render the claims indefinite as it is allegedly unclear whether the recited method is practiced *in vitro* or *in vivo* (current Office Action, Paper No. 5, paragraphs 2 through 4).

As discussed during the telephonic interview, claim 45 does not recite the term "cell." Therefore, it was agreed that the rejection of claim 45 for recitation of the allegedly indefinite term "cell" should be withdrawn.

With regard to independent claims 47, 49, 51 and 53, Applicants respectfully submit that the amendments proposed above render the present indefiniteness rejection moot. In particular, as discussed during the telephonic interview, claims 47, 49, 51 and 53, have each been amended to recite that the method is practiced *in vitro*. Formerly dependent claims 48, 50, 52 and 54, have each been rewritten in independent form and each recite that the method is practiced *in vivo*.

In view of the above remarks and amendments, Applicants respectfully request that the rejection of claims 45 through 54 under 35 U.S.C. §112, second paragraph, should be removed.

Regarding the Rejections under 35 U.S.C. §102(b)

Applicants respectfully traverse the rejection of claims 45, 47, 49, 51 and 53 under 35 U.S.C. §102(b) as allegedly anticipated by Hayman et al., J. Cell Biol. 100: 1948-1954 (1985).

> [A]nticipation requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.

Advanced Display Sys., Inc. v. Kent State Univ., 212 F.3d 1272, 1282 (Fed.Cir. 2000) (citing Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347 [Fed.Cir. 1999]; and In re Paulsen, 30 F.3d 1475, 1479 [Fed.Cir. 1994]).

Claim 45 is directed to a method of inhibiting binding of a natural ligand to a vitronectin receptor that encompasses contacting the vitronectin receptor with a peptide containing a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting binding of the natural ligand to the vitronectin receptor.

Claim 47 is directed to method of selectively inhibiting attachment of cells to vitronectin by providing to the

cells *in vitro* a solution of a peptide containing a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting attachment of the cells to the vitronectin.

Claim 49 is directed to a method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate by providing to the cells *in vitro* a solution containing a peptide that encompasses a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting binding of the vitronectin receptor-containing cells to the substrate.

Claim 51 is directed to a method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate by the steps of (a) providing to the cells *in vitro* a peptide containing a conformationally restricted sequence Arg-Gly-Asp in solution and (b) contacting the cells with the solution.

Claim 53 is directed to a method of selectively inhibiting binding of cells to a substrate by providing to the cells *in vitro* a solution of a peptide containing an Arg-Gly-Asp sequence chemically modified with an additional chemical structure, wherein the additional chemical structure conformationally restricts the stereochemical structure of the Arg-Gly-Asp sequence in such a way that the affinity of the Arg-Gly-Asp binding site sequence for a particular receptor is enhanced.

As set forth above, each of the rejected claims is directed to a method that utilizes a conformationally restricted Arg-Gly-Asp sequence. Hayman et al. does not describe methods utilizing a conformationally restricted Arg-Gly-Asp sequence. Consequently, Hayman et al. does not disclose all elements of the claimed invention. Accordingly, the rejection of claims 45, 47, 49, 51 and 53 under 35 U.S.C. §102(b) over as allegedly anticipated by Hayman et al. is unsupported by the cited reference and should be removed.

CONCLUSION

In light of the amendments and remarks herein, Applicants submit that the claims are now in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to call the undersigned attorney or Cathryn Campbell if there are any questions.

Respectfully submitted,

Date: December 5, 2002

Astrid R. Spain
Registration No.: 47,956
Telephone: (858) 535-9001
Facsimile: (858) 535-8949

Campbell & Flores LLP
4370 La Jolla Village Drive
7th Floor
San Diego, California 92122
USPTO CUSTOMER NO. 23601

APPENDIX A

47. A method of selectively inhibiting attachment of cells to vitronectin comprising providing to said cells *in vitro* a solution of a peptide containing the sequence Arg-Gly-Asp, said Arg-Gly-Asp sequence being conformationally restricted, thereby selectively inhibiting attachment of said cells to said vitronectin.

48. [The method of claim 47, wherein said inhibition occurs] A method of selectively inhibiting attachment of cells to vitronectin comprising providing to said cells *in vivo* a solution of a peptide containing the sequence Arg-Gly-Asp, said Arg-Gly-Asp sequence being conformationally restricted, thereby selectively inhibiting attachment of said cells to said vitronectin.

49. A method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate comprising providing to said cells *in vitro* a solution containing a peptide that encompasses the sequence Arg-Gly-Asp, said Arg-Gly-Asp sequence being conformationally restricted, thereby selectively inhibiting binding of said vitronectin receptor-containing cells to said substrate.

50. [The method of claim 49, wherein said inhibition occurs] A method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate comprising providing to said cells *in vivo* a solution containing a peptide that encompasses the sequence Arg-Gly-Asp, said Arg-Gly-Asp sequence

being conformationally restricted, thereby selectively inhibiting binding of said vitronectin receptor-containing cells to said substrate.

51. A method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate comprising the steps of:

a. providing to said cells *in vitro* a peptide containing the sequence Arg-Gly-Asp in solution, said Arg-Gly-Asp sequence being conformationally restricted; and

b. contacting said cells with said solution.

52. [The method of claim 51, wherein said inhibition occurs] A method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate comprising the steps of:

a. providing to said cells *in vivo* a peptide containing the sequence Arg-Gly-Asp in solution, said Arg-Gly-Asp sequence being conformationally restricted; and

b. contacting said cells with said solution.

53. A method of selectively inhibiting binding of cells to a substrate comprising providing to said cells *in vitro* a solution of a peptide containing an Arg-Gly-Asp sequence chemically modified with an additional chemical structure, wherein said additional chemical structure conformationally restricts the stereochemical structure of said Arg-Gly-Asp sequence in such a way that the affinity of the Arg-Gly-Asp binding site sequence for a particular receptor is enhanced.

54. [The method of claim 53, wherein said inhibition occurs] A method of selectively inhibiting binding of cells to a substrate comprising providing to said cells *in vivo* a solution of a peptide containing an Arg-Gly-Asp sequence chemically modified with an additional chemical structure, wherein said additional chemical structure conformationally restricts the stereochemical structure of said Arg-Gly-Asp sequence in such a way that the affinity of the Arg-Gly-Asp binding site sequence for a particular receptor is enhanced.